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# CANADIAN PATENT

ELECTRICAL RECEPTACLE FIXTURE

John A. Kozmik and Lawrence O. Langford, Vancouver, British  
Columbia, Canada

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No. OF CLAIMS 11

This invention relates to an electrical receptacle fixture for building walls for the accommodation within said walls of one or more electrical plug.

5 The electrical receptacles of the prior art for receiving the prongs of plugs on the ends of electrical leads or wires of lamps and other electrical equipment are flush with the surfaces of the building walls in which they are located. For normal usage in homes, these receptacles are usually spaced above the floor level, but they may be located wherever desired. These receptacles even when not in use are  
10 ugly, and seem to attract small children so that there is always the danger of a child inserting a piece of metal in a prong-receiving slot of the receptacle with the consequent danger of receiving an electrical shock and burns. When the prongs of an electrical plug are inserted in a receptacle, the plug and the lead thereof project outwardly from the  
15 face of the wall. These are ugly, the plug may be struck by furniture being moved along the wall, and being so prominent, the plug increases the temptation for young children with the consequent increase of danger to them. Furthermore, partially inserted prongs tend to become a real danger and hazard to small children in particular and as a fire hazard  
20 in general.

The present invention overcomes these objectionable features by the provision of an electrical receptacle fixture comprising a casing adapted to be mounted in an opening in a building wall, said casing including an inner wall and an open side opposite said inner wall whereby  
25 the casing opens out from the building wall in which it is mounted. This casing is large enough to accommodate at least one pronged electrical plug while its prongs are in the outlet of an electrical receptacle which fits in an opening in the casing. Thus, no part of the plug projects beyond the surface of the building wall. In the preferred form of the invention,  
30 a face plate is movably connected to the casing to cover the open side

thereof, and said face plate has a small opening therein through which the electrical lead or wire of the plug may extend. With this arrangement, all that can be seen from the room is a face plate with an electrical lead extending out therefrom. The plug is completely covered so that it cannot be seen, or touched by furniture moved along the wall. It is preferable to provide securing means at the face plate for retaining it in the closed position over the casing open side. This will prevent children from playing with the plug in the electrical receptacle, and from inserting articles into the receptacle itself.

The preferred form of the invention includes an open-sided electrical box surrounding all but the open side of the casing with the open side of the box at said open casing side, and means in the box for supporting an electrical receptacle in a position with its outlet fitting in the hole in the inner wall of the casing. This electrical box not only protects the wiring of the receptacle, but it serves as means for locating the correct position of the casing in walls during the construction thereof.

An electrical receptacle fixture according to the present invention comprises a casing adapted to be mounted in an opening in a building wall, said casing including an inner wall and an open side opposite said inner wall whereby the casing opens out from the building wall in which it is mounted, said casing having a hole therein into which an outlet of an electrical receptacle may fit and the casing being large enough completely to accommodate a pronged electrical plug having an electrical lead extending therefrom and with its prongs in the receptacle outlet, and, as preferred, a face plate movably connected to the casing to cover the open side thereof, said face plate having a small opening therein through which an electrical lead may extend.

Examples of this invention are illustrated in the accompanying drawings, in which,

Figure 1 is a perspective view of a portion of a building wall having an electrical receptacle mounted therein in the usual manner,

Figure 2 is a perspective view of a portion of a building wall having one form of this electrical receptacle fixture mounted therein,

Figure 3 is an enlarged vertical section through the wall and the receptacle fixture with the cover of the latter closed, said fixture including an electrical box,

Figure 4 is an enlarged perspective view of the receptacle fixture of Figure 3, but with its face plate open,

Figure 5 is a perspective view of the fixture of Figure 4 with the casing thereof removed,

Figure 6 is a rear perspective view of the fixture casing by itself,

Figure 7 is a view similar to Figure 4, illustrating a fixture with an alternative form of face plate,

Figure 8 is a sectional view similar to Figure 3 of an alternative form of receptacle fixture, and

Figure 9 is a rear elevation of the fixture of Figure 8.

Referring to the drawings, Figure 1 illustrates an electrical receptacle 10 mounted in a wall 11 in the usual manner. The illustrated receptacle has two outlets which open out through a face plate 12 that covers the receptacle and overlies a portion of the wall. A pronged electrical plug 13 is shown with its prongs in one of the outlets, said plug having the usual electrical lead or wire 14 extending away therefrom. It will be noted that plug 13 projects outwardly from the face of the wall 11, while the other outlet of the receptacle is exposed so that a child could insert a flat object therein.

Figures 2 to 6 illustrate one form of electrical receptacle fixture 20 which is mounted in a wall 22. This wall is formed with an opening 23 therein at the face 24 thereof.

Fixture 20 includes a casing 25 made up of a peripheral wall 26 forming the top, bottom and ends thereof, and an inner wall 28. The

casing is formed with an open side 30 which is opposite the inner wall 28, see Figure 3. This inner wall has at least one hole 33 therein into which the outlet of an electrical receptacle may fit. It will be understood that this hole may be in any part of the casing, but it is not as convenient if the hole is in the peripheral wall.

In the illustrated form of the invention, there are two of these holes 33 so that the fixture is intended to be used with a receptacle having two outlets. It is preferable, although not absolutely necessary, to provide the casing 25 with a flange 36 around its open side, said flange being adapted to overlap the surface 24 of wall 22. If desired, the outer surface of this flange may be flush with the wall surface.

A standard electrical receptacle 39 is provided at wall 28 outside of the casing 25. This receptacle has an outlet for each hole 33 in the inner casing wall. The receptacle may be mounted at or secured to wall 28 in any desired manner. However, as such receptacles usually have a tapped hole 40 therein centrally thereof for the securing of a face plate thereto, it has been found preferable to provide a small hole 41 in the casing wall centrally thereof through which a screw 42 may extend so that it can be threaded into the receptacle hole 40 to secure said receptacle to the casing wall. This is arranged so that each of the receptacle outlets 45 fit into a hole 33 of the casing inner wall.

Casing 25 is made large enough completely to accommodate at least one pronged electrical plug with its prongs in the receptacle. In this example, the casing is large enough to accommodate two such plugs, one of which is shown in broken lines at 44 in Figure 3. This plug has an electrical lead 45 connected to and extending away therefrom.

A face plate 50 is movably connected to casing 25 in any convenient manner. In this example, the plate is connected to flange 36 by hinges 52. It is preferable to provide a spring 53 at these hinges

which biases plate 50 to a closed position covering the open side 30 of the casing, as shown in Figures 2 and 3. This face plate is provided with means for permitting at least one electrical lead to extend out of the casing. For example, plate 50 is provided with two small openings 56 through either of which lead 45 may extend. If desired, the plate may be provided with a small finger grip 57 on its outer surface by means of which it may be opened.

It is also preferable to provide securing means at face plate 50 for retaining the latter in the closed position over the open side of the casing. This may be used only when it is desirable to protect the plugs and receptacle from small children. In this example, a screw 60 extends through the face plate and is threaded into a tapped hole 61 in flange 36.

Casing 25 of fixture 20 may be mounted in wall opening 23 in any convenient manner. It has, however, been found desirable to form the fixture with an electrical box 66 having an open side 67. This box surrounds all but the open side 30 of casing 25 with the open side of the box at said open casing side. The open side of the box actually abuts against the inner surface of flange 36, as clearly shown in Figure 3. The box is connected to the casing in any convenient manner. It is provided with inwardly-projecting ears 70 to which the receptacle 39 is connected by screws 71 so that the receptacle extends across the box spaced inwardly from its open side 67. This spacing is such that the receptacle is held in its proper position relative to the casing inner wall 28 when the fixture is assembled. With this arrangement, screw 42 not only connects the receptacle to the casing, but it connects the box thereto as well.

Box 66 is provided with a plurality of holes 73 therein in the manner which is customary with standard electrical boxes. Although holes 73 have been shown open, they are usually closed by discs which

may be easily knocked out so that wires may extend into the box through a selected opening. Furthermore, the box is provided with mounting ears 75 by means of which it may be secured to a suitable support in the wall. As is well known, standard electrical boxes have different forms of mounting means, and box 66 may be provided with any of them. The idea is to provide means whereby the box may be mounted on a suitable support during construction of the wall so that its open side will open out through the finished wall.

The electrical receptacle fixture 20 is mounted in the opening 23 of wall 22 so that the open side 30 of casing 25 opens outwardly from said wall. Face plate 50 normally closes the open side of the casing so that said plate is all that can be seen on the outer surface of the wall. When it is desired to insert a plug 44 into or to remove it from receptacle 39, plate 50 is swung upwardly to permit this to be done. When the plate is in its normal closed position, the lead 45 of the plug within the casing extends outwardly through an opening 56 in said cover. This makes a very neat fixture in the wall, and the plug cannot be accidentally knocked completely or partially out of the receptacle. In addition to this, when the cover is secured in its closed position by screw 60, a child cannot get at the receptacle or the plug.

The face plate of the fixture may be connected to the casing thereof in any desired manner, and it may take any desired form. The main thing is that it should be easy to open and close so that there will be no difficulty about inserting the plug into the receptacle within the fixture or to remove said plug therefrom.

Figure 7 illustrates an alternative form of face plate which is actually in two sections slidably mounted on the casing. The casing of fixture 20a has a flange 36a around the open side thereof. This flange is formed with upper and lower tracks 80 and 81 in which sections 84 and 85 of a base plate are slidably mounted. These sections

are movable away from and towards each other in order to open and close the casing of the fixture. The sections may be provided with small finger grips 87 and 88, if it is so desired. Furthermore, securing means may be provided for fixing the plate sections in the closed position. This may be accomplished by means of screws 89 and 90 which extend through sections 84 and 85 and into flange 36a. One or both of the plate sections is or are provided with a small opening 92 therein through which an electrical lead may extend. In this example, the opening 92 of the two plate sections are beside each other when said sections are closed to form a common opening for the electrical lead.

When it is desired to get into fixture 20a, either or both of the face plate sections 84 and 85 is or are moved outwardly, section 85 being shown in broken lines in the partially open position. When these plate sections are closed, the electrical receptacle and any plug in the casing of the fixture cannot be seen. Furthermore, if screws 89 and 90 secure the plate sections in the closed position, a young child cannot get at the receptacle or plug.

Figures 8 and 9 illustrate an alternative form of electrical receptacle fixture 100. This fixture is similar to fixture 20, but instead of having one or more holes in the inner wall 102 thereof, it has one or more holes 103 in the peripheral wall 105 of the casing 106 at the bottom thereof. In this case, a standard electrical receptacle 109 is provided at wall 105 outside the casing, said receptacle having an outlet for each hole 103 in the casing wall. The receptacle may be secured to the casing in any desired manner, and in this example it is secured thereto by means of a screw 110.

If desired, casing 106 may be positioned within an electrical box 112, and said box may be formed with an offset cover 113 which fits around receptacle 109, and has an opening 114 facing rearwardly of the fixture in order to permit access to the receptacle.

Fixture 100 may or may not be provided with a suitable face plate, such a face plat 115, as shown.

The receptacle fixture 100 functions in the same manner and for the same purposes as fixture 20. The main difference between these  
5 fixtures is that the outlet or outlets of receptacle 109 open through the casing wall 105 instead of the inner wall thereof.

The main feature of this receptacle fixture is safety. The  
10 fixture is designed so that the receptacles are inaccessible to small children and thus eliminates the possibility of insertion therein of such things as bobby pins, knives, wires or other electrical conductors which may cause serious burns or shocks to a child. Children cannot  
tamper with the plugs or outlets which might cause shorts or loose wires and connections that are fire hazards. The fixture will allow a plug  
15 but not a multiple adaptor to be inserted in each outlet of a receptacle, and this reduces the possibility of overloading the electrical circuit. The receptacles and plugs are protected from moisture and dirt. Furthermore, this fixture presents a pleasing appearance on the wall in which it is located, leaving only a cord or cords in view.

The embodiments of the invention in which an exclusive privilege or property is claimed are defined as follows:

1. An electrical receptacle fixture for walls comprising a casing adapted to be mounted in an opening in a building wall, said casing including an inner wall and an open side opposite said inner wall whereby the casing opens out from the building wall in which it is mounted, said casing having a hole therein into which an outlet of an electrical receptacle may fit and the casing being large enough completely to accommodate a pronged electrical plug having an electrical lead extending therefrom and with its prongs in the receptacle outlet, an open sided electrical box surrounding all but the open side of the casing with the open side of the box at said open casing side, and means in the box for supporting an electrical receptacle in a position with the outlet thereof fitting in the hole in the inner wall of the casing.

2. An electrical receptacle fixture for walls comprising a casing adapted to be mounted in an opening in a building wall, said casing including an inner wall and an open side opposite said inner wall whereby the casing opens out from the building wall in which it is mounted, said casing having a hole therein into which an outlet of an electrical receptacle may fit and the casing being large enough completely to accommodate a pronged electrical plug having an electrical lead extending therefrom and with its prongs in the receptacle outlet, an open sided electrical box surrounding all but the open side of the casing with the open side of the box at said open casing side, means in the box for supporting an electrical receptacle in a position with the outlet thereof fitting in the hole in the casing, and a face plate movably connected to the casing to cover the open side thereof, said face plate having a small opening therein through which an electrical lead may extend.

3. An electrical receptacle fixture as claimed in claim 2 in which the face plate is hingedly connected to the casing.

4. An electrical receptacle fixture as claimed in claim 3 in which the face plate is spring-biased to the closed position covering the open side of the casing.

5. An electrical receptacle as claimed in claim 3 or 4 including securing means at the face plate for retaining said plate in a closed position over the casing open side.

6. An electrical receptacle as claimed in claim 2 in which the casing is provided with a flange around its open side adapted to overlap the surface of the wall in which the casing is mounted.

7. An electrical receptacle as claimed in claim 2 in which the face plate is slidably connected to the casing and may be moved from a closed position covering the casing open side to an open position at least partially uncovering the casing side.

8. An electrical receptacle as claimed in claim 7 including securing means on the sliding face plate for retaining said plate in a closed position over the casing open side.

9. An electrical receptacle fixture as claimed in claim 2 including means connecting the receptacle to the casing inner wall thereby connecting the box to the casing.

10. An electrical receptacle fixture for walls comprising a casing adapted to be mounted in an opening in a building wall, said casing including an inner wall, an open side opposite said inner wall whereby the casing opens out from the building wall in which it is mounted, and a flange around said open casing side adapted to overlies the surface of said wall, said casing having a hole therein into which an outlet of an electrical receptacle may fit and the casing being large enough completely to accommodate a pronged electrical plug having an electrical lead extending therefrom and with its prongs in the receptacle outlet, an open sided electrical box surrounding all but the open side of the casing with the open side of the box adjacent the casing flange, and means in the box for supporting an electrical receptacle in a position with the outlet thereof fitting in the hole in the inner wall of the casing.

11. An electrical receptacle as claimed in claim 10 including a face plate movably connected to the casing to cover the open side thereof, said face plate having a small opening therein through which an electrical lead may extend.

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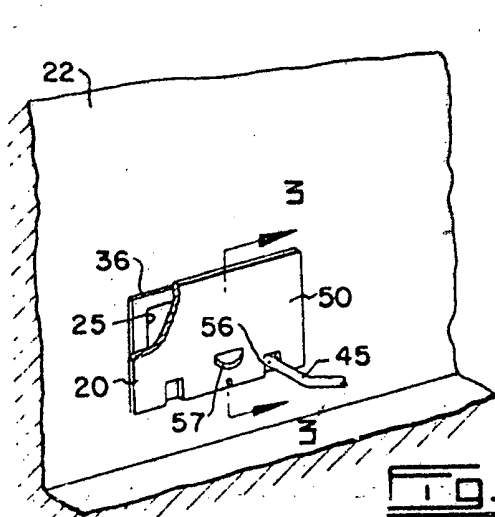


Fig. 2.

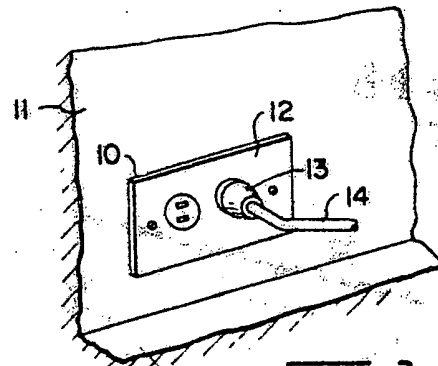


Fig. 1.

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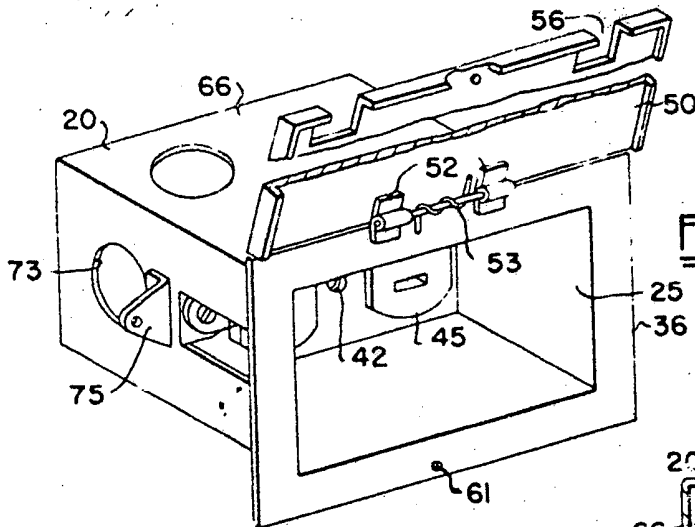


Fig. 4.

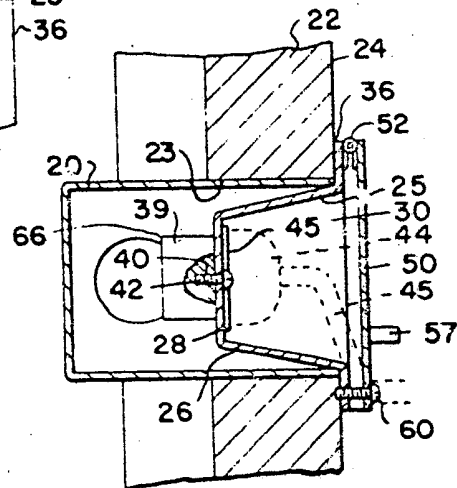


Fig. 3.

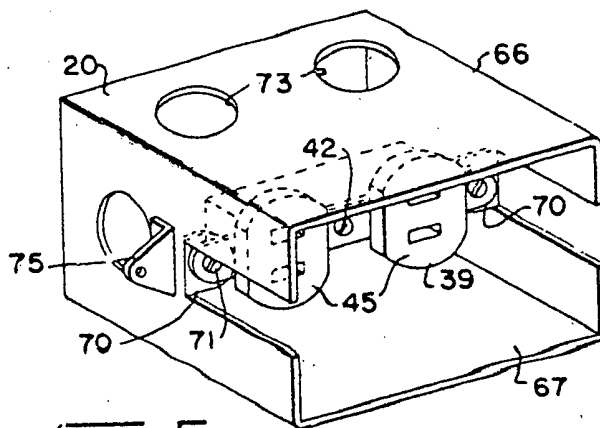


Fig. 5.

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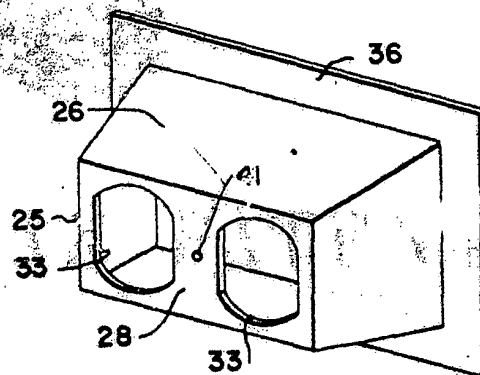


Fig. 6.

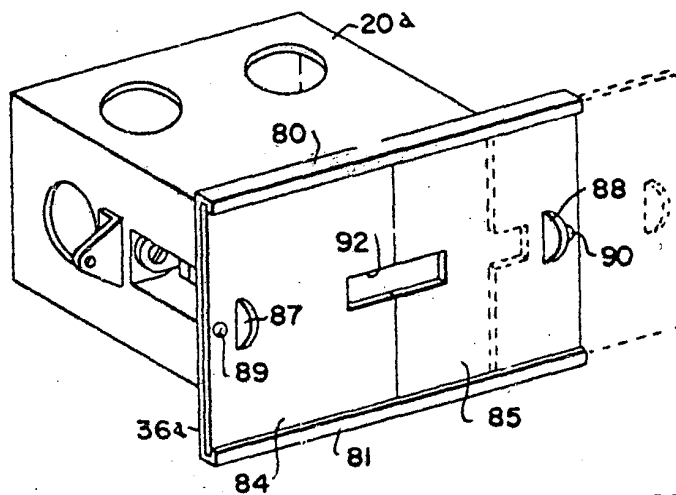


Fig. 7.

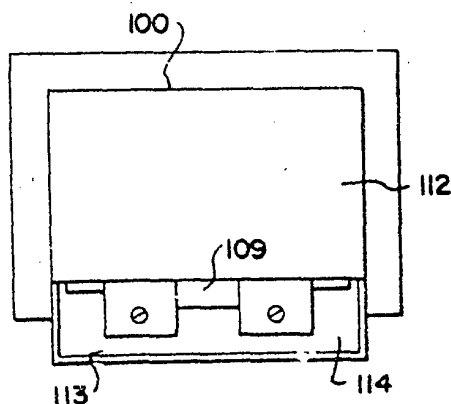


Fig. 8.

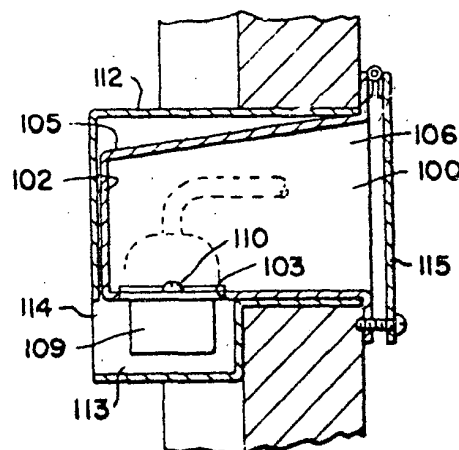


Fig. 9.